

PATENT

TITLE OF THE INVENTION

[0001] ROOF RIPPER

CROSS-REFERENCE TO RELATED APPLICATIONS

[0002] Not Applicable

STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH

[0003] Not Applicable

REFERENCE TO MICROFICHE APPENDIX

[0004] Not Applicable

FIELD OF THE INVENTION

[0005] The present invention generally relates to tools and, more particularly, to roof rippers or tools for removing roofing shingles, tar paper, nails and other like roofing materials.

BACKGROUND OF THE INVENTION

[0006] Roofs of buildings are often covered by shingles. The shingles are generally planar and somewhat soft and flexible. The shingles are installed in series one next to the other and overlying, in staggered fashion, a lower coarse of similar shingles. The shingles are typically installed over a layer of roofing felt, tar paper, or the like. The shingles are normally nailed to the roof with roofing nails that have wide, flat heads so that they can securely hold the soft shingle material. The nails of one coarse of shingles are covered by the next overlying coarse of shingles. The nails are unexposed to protect the nails from the elements.

[0007] When the roof needs re-shingled, a second layer of shingles can be placed of the first layer of shingles in some instances but it is usually not possible to add a third or more layer of shingles because the roof structure may not be able to support the added weight of the additional layers of shingles. Therefore, the old layer or layers of shingles must be removed

and discarded prior to installing the new shingles. Shingle removal is a labor intensive process and numerous shingle removing tools have been devised for assisting a roofer to remove roofing materials.

[0008] Removing shingles is time-consuming and tedious task at least partly because the shingles cover the nails and it is not usually possible to merely raise the flap of one shingle to gain access to the nails. It is typically difficult and inconvenient to gain access to the nails. Shingle removal tools or pry bars of various designs have been proposed which have a blade which is slid between the shingles and the roof. The blade is often provided with slots or notches to engage the nails so that a nail or group of nails can be pried up from the roofing boards to remove the shingles. While such tools may assist in removing the shingles, the removal process remains a physically demanding operation. Accordingly, there is a need in the art for an improved shingle removal tool which eases removal of the shingles from the roof and/or reduces fatigue of the user.

SUMMARY OF THE INVENTION

[0009] The present invention provides a shingle removal tool which overcomes at least some of the above-noted problems of the related art. According to the present invention, a shingle removal tool includes, in combination, a base and a blade forwardly extending from the base. The blade has a planar portion forming a leading edge. An elongate shaft rearwardly extends from the base. A pair of wheels are rotatably attached to the base rearward of the blade. The wheels are laterally spaced apart and have a common rotational axis.

[0010] According to another aspect of the present invention, a shingle removal tool includes, in combination, a base; a blade forwardly extending from the base, and an elongate shaft rearwardly extending from the base. At least one wheel is rotatably attached to the base rearward of the blade. The blade has a planar portion forming a leading edge. The shaft has an obtuse angle therein forming a forward portion having a central axis which intersects the plane formed by the planar portion of the blade between the planar portion of the blade and the at

least one wheel and a rearward portion which intersects the plane formed by the planar portion of the blade forward of the planar portion of the blade.

[0011] According to yet another aspect of the present invention, a shingle removal tool includes, in combination, a base, a blade forwardly extending from the base, and an elongate shaft rearwardly extending from the base . The blade forms a leading edge. A rear grip has a passage slidably receiving a rear end of the shaft therein such that the rear grip is axially moveable relative to the shaft. A body of resilient material is located between the rear grip and the shaft to absorb impacts as the rear grip axially moves forward relative to the shaft.

[0012] According to yet another aspect of the present invention, a shingle removal tool includes, in combination, a base, a blade forwardly extending from the base, and an elongate shaft rearwardly extending from the base . The blade forms a leading edge. A rear grip located at a rear end of the shaft and a fore grip is located along the shaft.

[0013] According to yet another aspect of the present invention, a shingle removal tool includes, in combination, a base, a blade forwardly extending from the base, and an elongate shaft rearwardly extending from the base. A pair of laterally spaced apart wheels are rotatable about a laterally extending axis of rotation located rearward of the blade. The blade has a planar portion forming a leading edge and the blade and the wheels are positioned such that a plane formed by the planar portion of the blade is substantially tangent to a radial peripheries of the wheels. The shaft has an obtuse angle forming a forward portion having a central axis which intersects the plane formed by the planar portion of the blade between the planar portion of the blade and the wheels and a rearward portion which intersects the plane formed by the planar portion of the blade forward of the planar portion of the blade. A rear grip is located at a rear end of the shaft.

[0014] From the foregoing disclosure and the following more detailed description of various preferred embodiments it will be apparent to those skilled in the art that the present invention

provides a significant advance in the technology of tools for removing roofing materials such as shingles. Particularly significant in this regard is the potential the invention affords for providing a high quality, reliable, easily assembled and disassembled, low cost assembly with improved operational performance. Additional features and advantages of various preferred embodiments will be better understood in view of the detailed description provided below.

BRIEF DESCRIPTION OF THE DRAWINGS

[0015] These and further features of the present invention will be apparent with reference to the following description and drawings, wherein:

FIG. 1 is a left side elevational view of a shingle removal tool according to a first embodiment of the present invention;

FIG. 2 is a top plan view of the shingle removal tool of FIG. 1;

FIG. 3 is a rear elevational view of the shingle removal tool of FIGS. 1 and 2;

FIG. 4 is a cross-sectional view taken along line 4-4 of FIG. 2;

FIG. 5 is an enlarged left side elevation view of a base of the shingle removal tool of FIGS. 1 to 4;

FIG. 6 is a top plan view of the base of FIG. 5;

FIG. 7 is an enlarged left side elevation view of a blade of the shingle removal tool of FIGS. 1 to 4;

FIG. 8 is a top plan view of the blade of FIG. 7;

FIG. 9 is an enlarged left side elevation view of a shaft of the shingle removal tool of FIGS. 1 to 4;

FIG. 10 is a top plan view of the shaft of FIG. 9;

FIG. 11 is an enlarged top plan view of a rear grip of the shingle removal tool of FIGS. 1 to 4;

FIG. 12 is a cross-sectional view taken along line 12-12 in FIG. 11;

FIG. 13 is an enlarged top plan view of a fore grip of the shingle removal tool of FIGS. 1 to 4;

FIG. 14 is a cross-sectional view taken along line 14-14 in FIG. 13;

FIG. 15 is a left side elevational view of a shingle removal tool according to a second embodiment of the present invention;

FIG. 16 is a top plan view of the shingle removal tool of FIG. 15;

FIG. 17 is a rear elevational view of the shingle removal tool of FIGS. 15 and 16; and

FIG. 18 is an enlarged left side elevation view of a shaft of the shingle removal tool of FIGS. 15 to 17.

[0016] It should be understood that the appended drawings are not necessarily to scale, presenting a somewhat simplified representation of various preferred features illustrative of the basic principles of the invention. The specific design features of the shingle removal tool as disclosed herein, including, for example, specific dimensions, orientations, and shapes of the various components will be determined in part by the particular intended application and use environment. Certain features of the illustrated embodiments have been enlarged or distorted relative to others to facilitate visualization and clear understanding. In particular, thin features may be thickened, for example, for clarity or illustration. All references to direction and position, unless otherwise indicated, refer to the orientation of the shingle removal tool illustrated in the drawings. In general, up or upward refers to an upward direction within the plane of the paper in FIG. 1 and down or downward refers to a downward direction within the plane of the paper in FIG. 1. Also in general, fore or forward refers to a direction toward the front of the shingle removal tool and a leftward direction within the plane of the paper in FIG. 1. Furthermore in general, aft, rear or rearward refers to a direction toward the rear of the shingle removal tool and a rightward direction within the plane of the paper in FIG. 1.

DETAILED DESCRIPTION OF CERTAIN PREFERRED EMBODIMENTS

[0017] It will be apparent to those skilled in the art, that is, to those who have knowledge or experience in this area of technology, that many uses and design variations are possible for the improved tools disclosed herein. The following detailed discussion of various alternative and preferred embodiments will illustrate the general principles of the invention with reference to a

tool for removing shingles. Other embodiments suitable for other applications will be apparent to those skilled in the art given the benefit of this disclosure.

[0018] The term “unitary” is used herein and in the claims to mean a member made of a single continuous material such as, for example, a single cast or molded part. The term “integral” is used herein and in the claims to mean members that are secured together such as, for example, two members connected by welding or bolts. The term “acute angle” is used herein and in the claims to mean an angle which is greater than 0 degrees and less than 90 degrees. The term “obtuse angle” is used herein and in the claims to mean an angle which is greater than 90 degrees and less than 180 degrees.

[0019] Referring now to the drawings, FIGS. 1 to 4 show a shingle removal tool 10 according to a preferred embodiment of the present invention. The illustrated shingle removal tool 10 includes a base 12, a blade, 14 a pair of wheels 16, a shaft or handle 18, a rear grip 20, and a fore grip 22.

[0020] As best shown in FIGS. 5 and 6, the base 12 includes a frame 24, a shaft support or connector 26, and an axle 28. The illustrated frame 24 includes unitary front, central and rear generally planar portions 30, 32, 34 which are formed by bending a generally flat plate. The front portion 30 is disposed at an acute angle A relative to horizontal such that it slopes upward in a rearward direction from a free or forward edge to a rearward edge. The illustrated front portion 30 is disposed at an acute angle A of about 35 degrees relative to horizontal but other suitable angles can be utilized. The front portion 30 is sized and shaped, provided with a plurality of openings 36, 38 and formed at an angle which cooperates with the blade 14 for attachment and positioning of the blade 14 as discussed in more detail hereinafter. The central portion 32 extends rearwardly from the rearward edge of the front portion 30 and is disposed at an acute angle B relative to horizontal such that it slopes downward in a rearward direction from a forward edge to a rearward edge. The illustrated central portion 32 is disposed at an acute angle B of about 20 degrees relative to horizontal but other suitable angles can be

utilized. The central portion 32 is provided with a notch or cut-out 40 at its free edge for receiving the shaft connector 26 therein. The central portion 32 is sized and shaped and formed at an angle which cooperates with the shaft connector 26 for attachment and positioning of the shaft 18 as discussed in more detail hereinafter. The rear portion 34 extends upwardly from the rearward edge of the central portion 32 and is disposed at an acute angle C relative to horizontal such that it slopes downward in a rearward direction from a free edge to a rearward edge connected to the rearward edge of the central portion 32. The illustrated rear portion 34 is disposed at an acute angle C of about 70 degrees relative to horizontal but other suitable angles can be utilized. The rear portion 34 is provided with a pair of tabs 42 which rearwardly extend from opposite lateral edges of the rear portion 34 and are sized and shaped for attaching and supporting the axle 28 as described in more detail hereinafter. The rear portion 34 is sized and shaped and formed at an angle which supports the shaft connector 26 and the axle 28 as discussed in more detail hereinafter. The frame 24 is formed of any suitable material such as, for example, a metal such as steel. It is noted that while a preferred frame 24 is described in detail herein, the frame 24 can alternatively have other suitable sizes, structures, shapes, and materials within the scope of the present invention.

[0021] The illustrated shaft connector 26 is in the form of a tube having a central passage 44 sized for closely receiving a forward end of the shaft 18 as described in more detail hereinafter. The shaft connector 26 is rigidly secured to and extends from the upper surface of the frame central portion 32 with a central axis 46 extending at an acute angle D relative to horizontal such that it slopes upward in a rearward direction from a closed or forward end at the frame central portion 32 to a rearward or open end. The illustrated shaft connector 26 is disposed at an acute angle D of about 70 degrees relative to horizontal but other suitable angles can be utilized. The shaft connector 26 is formed of any suitable material such as, for example, a metal such as steel. The shaft connector 26 is rigidly secured to the frame 24 in any suitable manner such as, for example, welding. It is noted that while a preferred shaft connector 26 is described in detail herein, the shaft connector 26 can alternatively have other suitable sizes, structures, shapes, and materials within the scope of the present invention.

[0022] The illustrated axle 28 is a laterally extending rod or tube sized for rotatably attaching the wheels 16 to the frame 24 as described in more detail hereinafter. The axle 28 forms a horizontal and laterally extending rotational axis 48 for the wheels 16. The opposed ends of the axle 28 are each provided with an opening 50 sized and shaped to receive a fastener 52 See FIGS. 1 and 2) such as, for example, a cotter pin for retaining the wheels 16 on the axle 28. Preferably, washers are provided between the wheels 16 and the fasteners 52. The illustrated axle 28 is rigidly secured to the frame 24 at the rear surface of the frame rear portion 34 and below and engaging the tabs 42. The axle 28 is formed of any suitable material such as, for example, a metal such as steel. The axle 28 is rigidly secured to the frame 24 in any suitable manner such as, for example, welding. It is noted that while a preferred axle 28 is described in detail herein, the axle 28 can alternatively have other suitable sizes, structures, shapes, and materials within the scope of the present invention. For example, the axle 28 can alternatively be rotatable secured to the frame 24 with the wheels 16 rigidly secured to the axle 28.

[0023] As best shown in FIGS. 7 and 8, the illustrated blade 14 includes unitary front or scraping and rear or connecting portions 54, 56 which are each generally planar and formed by bending a generally flat plate. The scraping portion 54 extends horizontally from a forward or leading edge 58 to a rearward edge. The leading edge 58 of the scraping portion 54 is provided with a plurality of laterally spaced apart slots or notches 60 sized and shaped to receive the shanks of nails therein. The lower surface 62 of the illustrated scraping portion 54 is substantially flat. The upper surface 64 of the scraping portion 54 is also substantially flat except for a taper 66 at the leading edge 58 to form a relatively sharp leading edge 58 which slips under the shingles more easily. The connecting portion 56 extends rearwardly from the rearward edge of the scraping portion 54 and is disposed at an acute angle E relative to horizontal such that it slopes upward in a rearward direction from a forward edge connected to the scraping portion 54 to a free or rearward edge. The illustrated connecting portion 56 is disposed at an acute angle E of about 35 degrees relative to horizontal but other suitable angles can be utilized. The connecting portion 56 is sized and shaped to cooperate with the forward

portion of the base frame 24 in order to rigidly connect the blade 14 to the base 12. The connecting portion 56 is provided with a pair of openings 68 and a pair of downwardly extending positioning tabs 70 which respectively cooperate with the openings 36, 38 in the front portion 30 of the base frame 24. The blade 14 is formed of any suitable material such as, for example, a metal such as steel. It is noted that while a preferred blade 14 is described in detail herein, the blade 14 can alternatively have other suitable sizes, structures, shapes, and materials within the scope of the present invention.

[0024] As best shown in FIGS. 1 and 2, the illustrated blade 14 is removably and rigidly attached to the base 12 by a pair of fasteners 72 in the form of bolts with associated lock nuts. The blade 14 is positioned with the connecting portion 56 located above and engaging the front portion 30 of the base frame 24 with the fasteners 72 extending through the openings 36, 68 in both the base frame 24 and the blade 14. The tabs 70 of the blade 14 downwardly extend into the other openings 38 in the frame 24 to locate the desired position of the blade 14 relative to the frame 24 and to provide additional strength. The blade 14 is preferably removably attached to the base 12 so that the blade 14 can be replaced by the user whenever the blade 14 is damaged or worn out. It is noted that while the illustrated blade 14 is removably attached to the base frame 24 by the fasteners 72, the blade 14 can alternatively be unitary with the base frame 24, attached by suitable non-removable means, or attached by other suitable types of removable means within the scope of the present invention.

[0025] As best shown in FIGS. 1 to 3, the illustrated pair wheels 16 are located on the opposed ends of the axle 28 and are rotatable about the rotational axis 48 formed by the longitudinal axis of the axle 28. The illustrated wheels 16 are retained on the axle 28 by removable cotter pins 52 extending through the openings 50 in the axle 28. It is noted that while the illustrated wheels 16 are removably retained to the axle 28 by the cotter pins 52, the wheels 16 can alternatively be retained by suitable non-removable means or retained by other suitable types of removable means within the scope of the present invention. The wheels 16 are preferably removably mounted so that they can be easily replaced when damaged or worn

out. Mounted in this location the illustrated wheels 16 are laterally spaced apart and located rearward of the blade 14 and base frame 24 and above the lower surface 62 of the blade 14. The wheels 16 are preferably laterally spaced apart a distance adequate to provide some lateral stability but less than the lateral width of the blade leading edge 58. The wheels 16 are preferably positioned such that the lower surface 62 of the blade 14 is substantially tangent to the outer radial periphery or contacting surface 74 of the wheels 16. Positioned in this manner the lower surface 62 of the blade scraping portion 54 is generally parallel to the support surface when the wheels 16 are engaging the support surface and the support surface is planar or flat which allows the wheels 16 to roll along the support surface as the blade 14 slides or scrapes along the support surface. The wheels 16 are formed of any suitable material such as, for example, a metal such as steel or a polymer such as Urethane. The wheels 16 are preferably formed of a material which is softer than the material of the axle 28 so that the wheels 16 rather than the axle 28 wears upon rotation of the wheels 16 on the axle 28. It is noted that while preferred wheels 16 and wheel locations are described in detail herein, the wheels 16 can alternatively have other suitable sizes, locations, shapes, and materials within the scope of the present invention. It is also noted that more than two wheels 16 can be utilized, only one wheel 16 can be utilized, or the wheels 16 can be removed within the scope of the invention.

[0026] As best shown in FIGS. 9 and 10, the illustrated shaft 18 is in the form of a tube having a central passage 76 extending between open forward and rearward ends. The shaft 18 preferably has a bend at an obtuse angle F connecting forward and rearward portions 78, 80. The bend is preferably sized to facilitate clearance for the user's legs when using the tool 10 in a sitting position as well as improving ergonomics of the user. The illustrated shaft 18 has a bend with an obtuse angle F of about 145 degrees but other suitable obtuse angles can be utilized. The bend has an obtuse angle preferably in the range of about 115 to about 175 degrees and more preferably in the range of about 130 to about 160 degrees. The rearward portion 80 is preferably longer than the forward portion 78 and more preferably has a length about twice the length of the forward portion 78. The illustrated shaft 18 is provided with an opening 82 in the rearward portion 80 near the rearward end for attaching the rear grip 20 as

described in more detail hereinafter. The illustrated shaft 18 is also provided with a plurality of axially spaced apart openings 84 in the rearward portion near the bend for attaching the fore grip 22 as described in more detail hereinafter. The shaft 18 is formed of any suitable material such as, for example, a metal such as steel. It is noted that while a preferred shaft 18 is described in detail herein, the shaft 18 can alternatively have other suitable sizes, structures, shapes, and materials within the scope of the present invention.

[0027] As best shown in FIGS. 1 to 3, the illustrated shaft 18, is rigidly secured to the base 12. The forward end of the shaft 18 is located within the base shaft connector 26. Positioned in this manner, the forward portion 78 of the shaft 18 forms an obtuse angle G relative to the scraping portion 54 of the blade 14. The illustrated obtuse angle G is about 110 degrees but other suitable angles can be utilized. The rearward portion 80 of the shaft 18 also forms an obtuse angle H relative to the scraping portion 54 of the blade 14. The illustrated obtuse angle H is about 145 degrees but other suitable angles can be utilized. Thus the central axis of the forward portion 78 of the shaft 18 intersects the plane formed by the blade scraping portion 54 at a point to the rear of the blade 14 and forward of the wheels 16 while the rearward portion 80 of the shaft 18 is at a larger obtuse angle such that the central axis of the rearward portion 80 of the shaft 18 intersects the plane formed by the blade scraping portion 54 at a point forward of the blade 14. The illustrated shaft 18 is secured to the base 12 by welding. It is noted that while the illustrated shaft 18 is non-removably attached to the base frame 24 by welding, the shaft 18 can alternatively be unitary with the base frame 24, attached by suitable removable means, or attached by other suitable types of non-removable means within the scope of the present invention.

[0028] As best shown in FIGS. 11 and 12, the rear grip 20 includes a tubular connecting portion 86 and a D-shaped grasping portion 88. The connecting portion 86 is generally tubular shaped forming a central passage 90 sized and shaped for slidably receiving the rearward end of the shaft 18 therein as described in more detail hereinafter. The passage 90 has an open or forward end and a closed or rearward end at the grasping portion 88. A pair of opposed slots

92 are provided on opposite sides of the passage 90 for attaching the rear grip 20 to the shaft 18 as described in more detail hereinafter. The grasping portion 88 extends rearwardly from the rearward end of the connecting portion 86 and has a cylindrical-shaped gripping surface 94. The illustrated gripping surface 94 horizontally and laterally extends substantially perpendicular to the longitudinal axis of the shaft 18. The illustrated gripping surface 94 is also rearwardly spaced from the rearward end of the connecting portion 86. The rear grip 20 is formed of any suitable material such as, for example, a plastic such as polypropylene. It is noted that while a preferred rear grip 20 is described in detail herein, the rear grip 20 can alternatively have other suitable sizes, structures, shapes, and materials within the scope of the present invention.

[0029] As best shown in FIGS. 1 to 4, the illustrated rear grip 20 is attached to the shaft 18 in an axially slidable manner. The rearward end of the shaft 18 is slidably received in the passage 90 of the connecting portion 86 such that the rear grip 20 can axially move relative to the shaft 18. Axial movement of the rear grip 20 is limited by a pin or fastener 96 engaging ends of the slots 92. The illustrated fastener 96 is a cotter pin secured by a washer and retaining ring but any other suitable fastener or pin 96 can be utilized within the scope of the present invention. The illustrated fastener 96 extends through the opening 82 in the shaft and through the slots 92 in the rear grip 20. The fastener 96 stays in a fixed position relative to the shaft 18 and engages ends of the slots 92 to limit axial movement as the rear grip 20 slides relative to the shaft 18 and fastener 96. It is noted that while a preferred attachment arrangement is described in detail herein, the rear grip 20 can alternatively be slidably attached in other suitable manners and/or have other suitable means for limiting axial movement of the rear grip 20 within the scope of the present invention.

[0030] As best shown in FIG. 4, a body of resilient and impact resistant material or shock absorber 98 is located within the connecting portion 86 between the rearward end of the shaft 18 and the closed end of the passage 90. In this position, the material 98 is in coaxial alignment between the shaft 18 and the rear grip 20. The body 98 preferably substantially fills the passage 90 when the rear grip 20 is in its full rearward position and biases the rear grip 20

to its full rearward position. During use of the tool 10, the body 98 resiliently permits axial movement between the rear grip 20 and the shaft 18 to at least partially absorb impacts transmitted through the shaft 18. The illustrated body 98 is disk shaped and sized and shaped to be closely received within the passage 90 of the rear grip connecting portion 86. The rearward end of the illustrated shaft 18 is provided with a plug 100 to fill the opening and provide a planar engagement surface for the body 98 which is the size of the rearward end of the shaft 18. The body 98 is formed of any suitable impact absorbing material such as, for example, a foam such as polyurethane foam. It is noted that while a preferred impact absorbing body 98 is described in detail herein, the body 98 can alternatively have other suitable sizes, structures, shapes, and materials within the scope of the present invention. When in use, energy is transferred from the shaft 18 to the material 98 whereby the material 98 is compressed between the shaft 18 and the rear grip 20 to absorb some of the energy.

[0031] As best shown in FIGS. 13 and 14, the illustrated fore grip 22 is generally tubular-shaped having a central passage 102 sided and shaped to slidably receive the shaft 18 therethrough so that the grip 22 is coaxially adjustable along the shaft 18. The illustrated fore grip 22 is provided with a flange 104 near the forward end which radially extends about the circumference of the fore grip 22. Rearward of the flange 104, a cylindrically shaped gripping surface 106 is provided which is coaxial with the shaft 18. The illustrated fore grip 22 also includes a pair of openings 108 located on opposite sides of the passage 102 near the forward end of the fore grip 22. The openings 108 are sized and shaped to receive a fastener 110 such as the illustrated bolt washer and lock nut. The fastener 110 extends through one of the openings 84 in the shaft 18 and the opposed openings 108 in the fore grip 22 to rigidly and removably secure the fore grip 22 to the shaft 18. The position of the fore grip 22 can be axially adjusted along the length of the shaft 18 to a plurality of predetermined fixed positions by moving the fastener 110 to one of the other openings 84. By adjusting the grip 22 to a position suitable for a particular user, the grip 22 is more likely to keep the user's hand from slipping off of the shaft 18. The illustrated fore grip 22 can be moved to any one of three predetermined and fixed axial positions but alternatively there can be a greater or lesser number

of fixed positions within the scope of the present invention. It is noted that while a preferred fore grip position adjusting means is described in detail herein, the fore grip 22 can alternatively have other types of position adjusting means. It is also noted that while the preferred fore grip 22 is movable between predetermined fixed axial positions described in detail above, the fore grip 22 can alternatively be in a permanent fixed axial position or be infinitely axially adjustable within the scope of the present invention. The fore grip 22 can also be eliminated if desired.

[0032] During operation of the tool 10, the operator places one hand on the fore grip 22 and their other hand on the rear grip 20. The fore grip 22 is adjusted to an axial position along the shaft 18 which is the most comfortable and/or provides the best leverage for the user to prevent the user's hand from slipping off of the shaft 18 during use. Both the lower surface 62 of the blade scraping portion 54 and the wheels 16 contact and support the tool 10 on the roof. The laterally spaced-apart wheels 16 provide lateral stability of the tool 10 and reduce friction so that the user has improved control of the tool 10. The bent shaft 18 enables the user to sit on a sloping roof with the shaft 18 located above their legs. The operator provides a forward force to the grips 20, 22 so that the blade scraping portion 54 slides under a shingle or shingles. The wheels 16 and the ergonomically shaped shaft 18 reduce the force required to produce the forward motion of the tool 10. When the leading edge of the blade 14 contacts a nail or nails, the rear grip 20 axially slides forward relative to the shaft 18 as the body 98 compresses and at least partially absorbs the impact. It is noted that the shape of the shaft 18 and rear grip 20 also lessens any impact on the user. The nails are received in the slots 60 in the blade 14 and the operator provides a downward force on the rear grip 20 to pivot the tool about a fulcrum 112 formed by the wheels to raise the blade 14 and pry out the nails. The shingle is then loose from the roof and can be discarded. The process is continued until all of the shingles have been removed from the roof.

[0033] FIGS. 15 to 17 show a shingle removal tool 200 according to a second preferred embodiment of the present invention. The shingle removal tool 200 is substantially the same as

the shingle removal tool 10 described in detail hereinabove except that the fore grip 22 is eliminated and a rear grip 202 is rigidly mounted and integral with the shaft 18. It is noted that like reference numbers are utilized to identify like structure between the embodiments. It is also noted that the fore grip 22 can be included if desired.

[0034] As best shown in FIG. 18, the illustrated rear grip 202 is rigidly mounted to the rearward end of the shaft 18. The rearward grip 202 is generally D-shaped and upwardly extends forming an acute angle I with the axis of the shaft 18. The illustrated acute angle I is about 55 degrees but other suitable acute angles can be utilized within the scope of the present invention. The acute angle I is preferably in the range of about 45 to about 90 degrees and more preferably in the range of about 45 to about 65 degrees. The rear grip 202 forms a cylindrical-shaped gripping surface 94. The illustrated gripping surface 94 horizontally and laterally extends substantially perpendicular to the longitudinal axis of the shaft 18. The illustrated gripping surface 94 is also rearwardly and upwardly spaced from the rearward end of the shaft 18. Positioned in this manner, impact loads transmitted through the shaft 18 to the user are reduced. Also, this configuration improves ergonomics of the user in a sitting position because the user can grab the sides of the grip 202 instead of the rear gripping surface. The rear grip 202 is formed of any suitable material such as, for example, a metal such as steel. The illustrated rear grip 202 is integral with the shaft 18 and secured by welding but other suitable attachment means can be utilized. It is noted that while a preferred rear grip 202 is described in detail herein, the rear grip 202 can alternatively have other suitable sizes, structures, shapes, and materials within the scope of the present invention.

[0035] It is apparent from the foregoing disclosure that the tools 10, 200 according of the present invention not only ease removal of the shingles from the roof, but also reduces fatigue to the user.

[0036] It is noted that each of the features of the various embodiments of the present invention can be used in any combination. For example, the fixed handle of the second

embodiment can be alternatively used the first embodiment and the adjustable fore grip of the first embodiment can alternatively be used with the second embodiment.

[0037] From the foregoing disclosure and detailed description of certain preferred embodiments, it will be apparent that various modifications, additions and other alternative embodiments are possible without departing from the true scope and spirit of the present invention. The embodiments discussed were chosen and described to provide the best illustration of the principles of the present invention and its practical application to thereby enable one of ordinary skill in the art to utilize the invention in various embodiments and with various modifications as are suited to the particular use contemplated. All such modifications and variations are within the scope of the present invention as determined by the appended claims when interpreted in accordance with the benefit to which they are fairly, legally, and equitably entitled.